

A Plan for DCAF in Korea

Kihyeon Cho

**Center for High Energy Physics (CHEP)
Kyungpook National University**



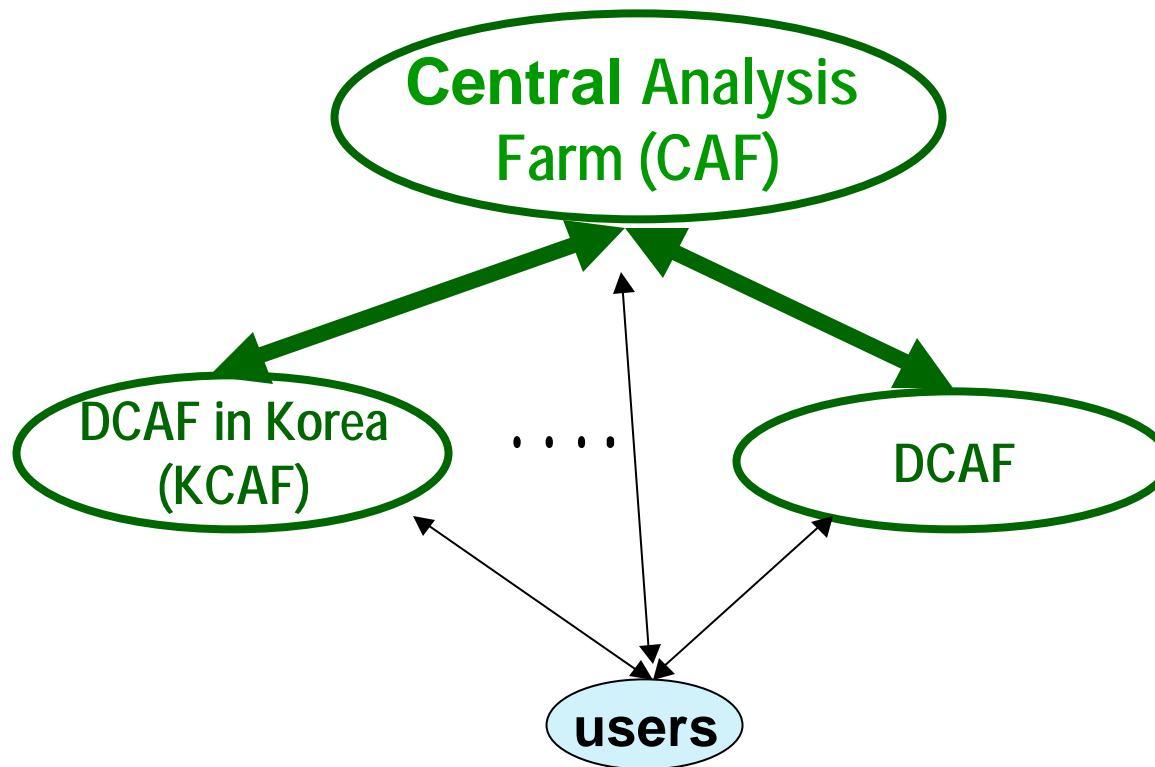
Contents

- **Introduction**
 - **Why DCAF/Grid?**
- **DCAF in Korea (so-called KCAF)**
 - **Current Resources**
 - **Step for Goal of KCAF**
 - **A Design of KCAF**
- **Conclusions**

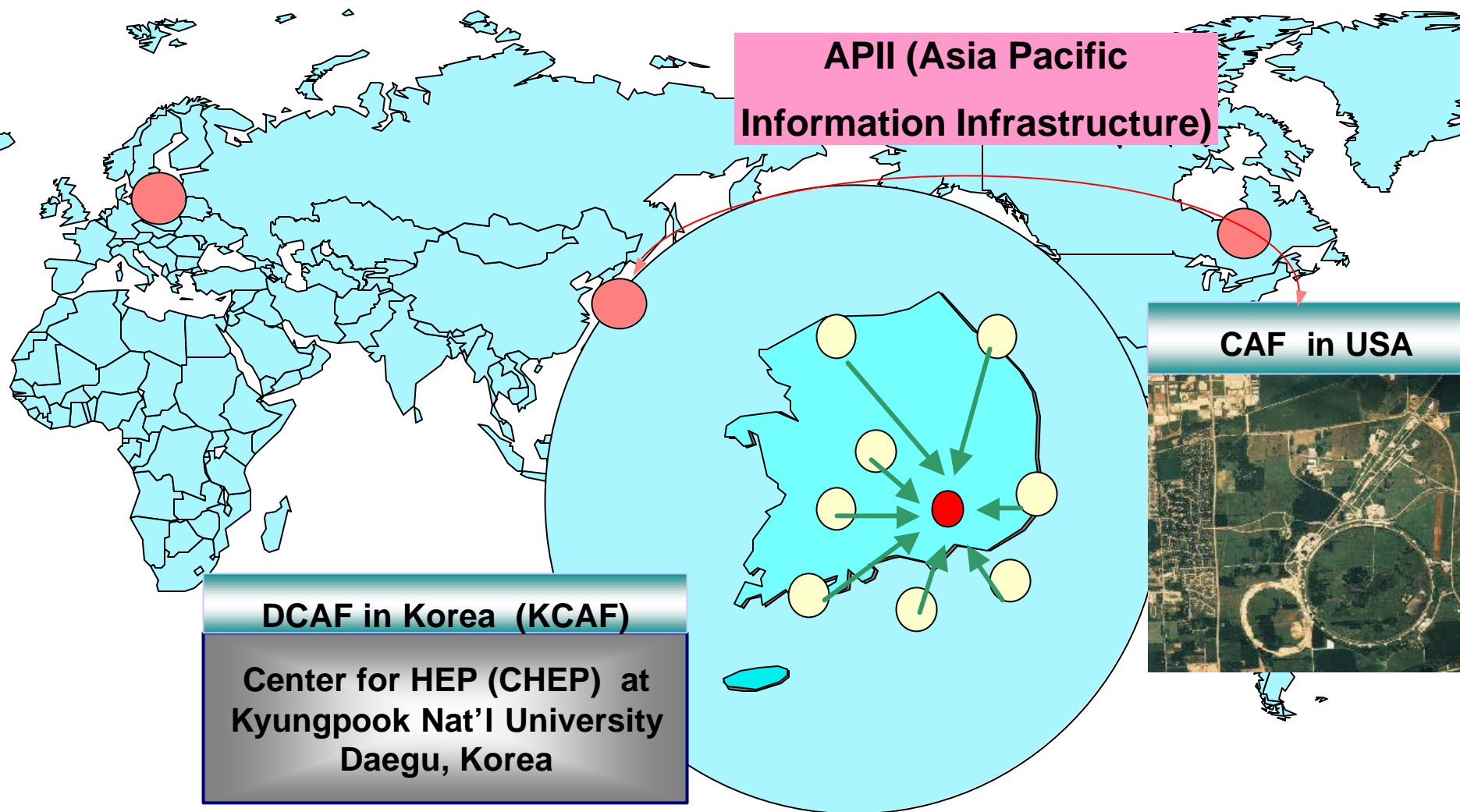
Why DCAF/Grid in future?

- CAF (Central Analysis Farm)
 - Limited resources and spaces at FCC
 - At Run IIb, data size is 6 times more than now.
 - In case of network problems at FCC
- DCAF
 - Users around regional area and/or around the world
 - Korea, Toronto, Karlsruhe,
- Call DCAF in Korea as “KCAF”

Proposed Schemes



Where is KCAF?



Man Power

- Center for High Energy Physics (CHEP) at Kyungpook National University (KNU)
 - Kihyeon Cho : Design
 - Youngdo Oh : Post-doc
 - Install CDF software and CAF related program
 - Will visit Fermilab (August 10-20, 2002) to solve the technical problems
 - Jaeyoung Lee : System manager
 - Install Hardware and Software
 - Eunjeong Son : Graduate Student
 - Run CAF, MC production programs and SAM
 - DongHee Kim : Advisory
- Seoul National University (SNU)
 - Bockjoo Kim : Advisory

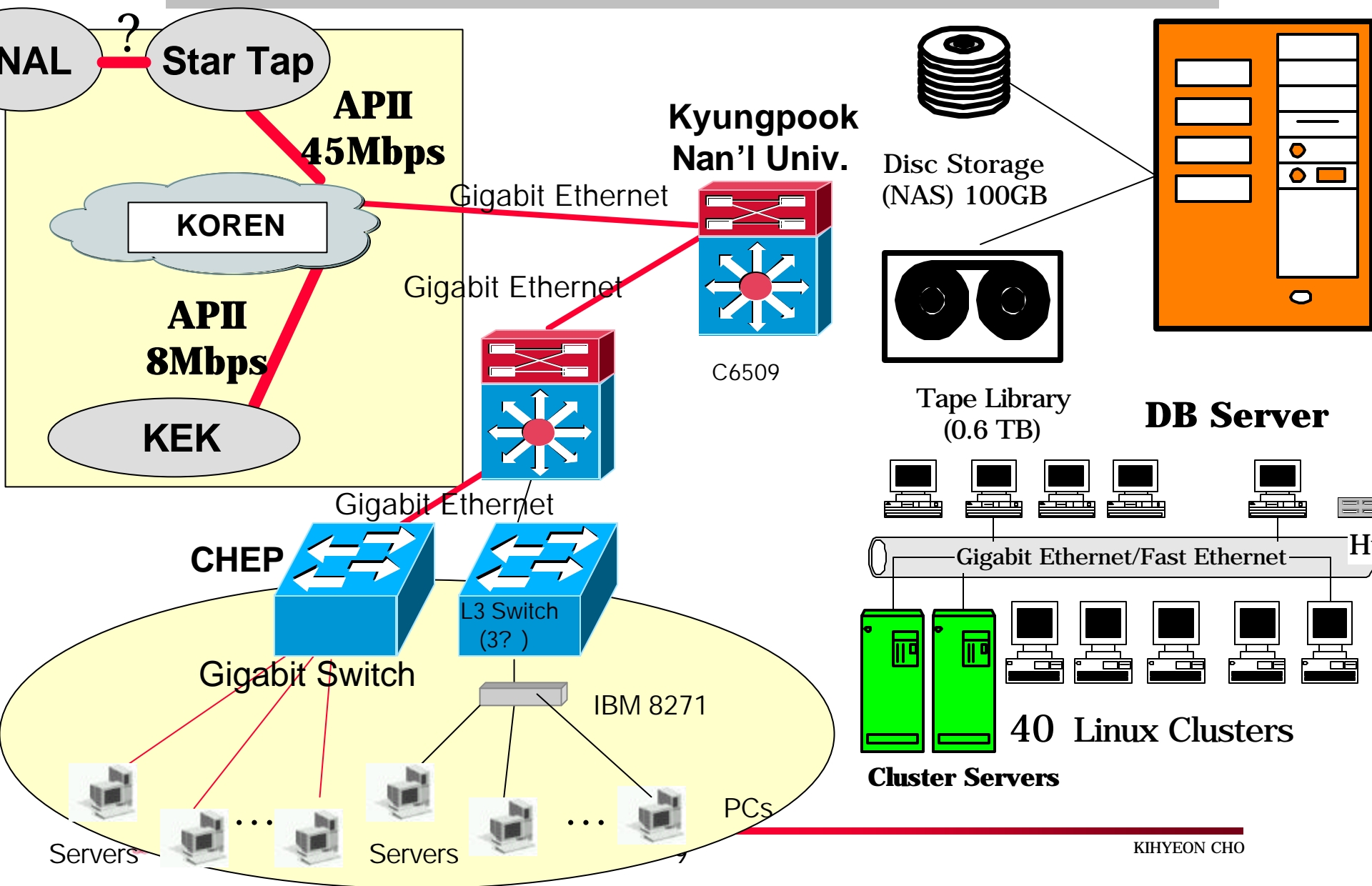
Current Resources

- CPU : 40 CPU (1.7 GHz) Clusters
- HDD
 - about 3 Tbyte (80 GB IDE X 40)
 - 100Gbyte Raid + 600 Gbyte Tape library
- Network
 - CHEP ----- KNU ----- KOREN ----- Star tap ----- Fermilab
 1Gbps 1 Gbps 45Mbps ?
- The actual network performance between CHEP and FNAL
 - 3~5 Mbps (30~50 Gbyte/day).

PC Clusters

Object	Item	Quantity
File Server	Pentium III 866MHz (dual)	2
Login and Compile Server	Pentium IV 1.7 GHz	1
	AMD 1.47 GHz	1
Main CPU	Pentium III 1 GHz (dual)	1
	Pentium IV 1.7 GHz	16
	AMD 1.47 GHz	14
	AMD 1 GHz	5
UPS	10 KW (30 min)	1
NAS	100 GB HDD (RAID)+	1
	600 GB Tape library	
Network Switch	24x100Mbps + 2 x 1 Gbps	1+1

Current Network between CHEP and FNAL (Actual 3~5Mbps)



Step for Goal of KCAF

- Step 1. To make MC production farm using KCAF
 - First, we start to construct 20/40 CPU test-bed for KCAF.
 - After policy inside of CHEP (another test-bed for EUDG) and between CDF, we will decide how many CPUs for actual MC generation farm will be used among this year's planed 100 CPUs.
- Step 2. To handle real data
 - To extend the KCAF to the real data handling system using SAM, Gridftp, etc after settling down real data handling system.
- Step 3. Final goal of CDF Grid
 - A gridification for KCAF related with EUDG and CDF Grid

Road Map

1. Software

- ✓ CDF Software
- FBSNG for batch job

2. Kerborse

- Client : login from Korea to Fermilab
- Server : login from Fermilab to Korea
- KDC : Client & Server Trust (\Rightarrow Need to discuss)

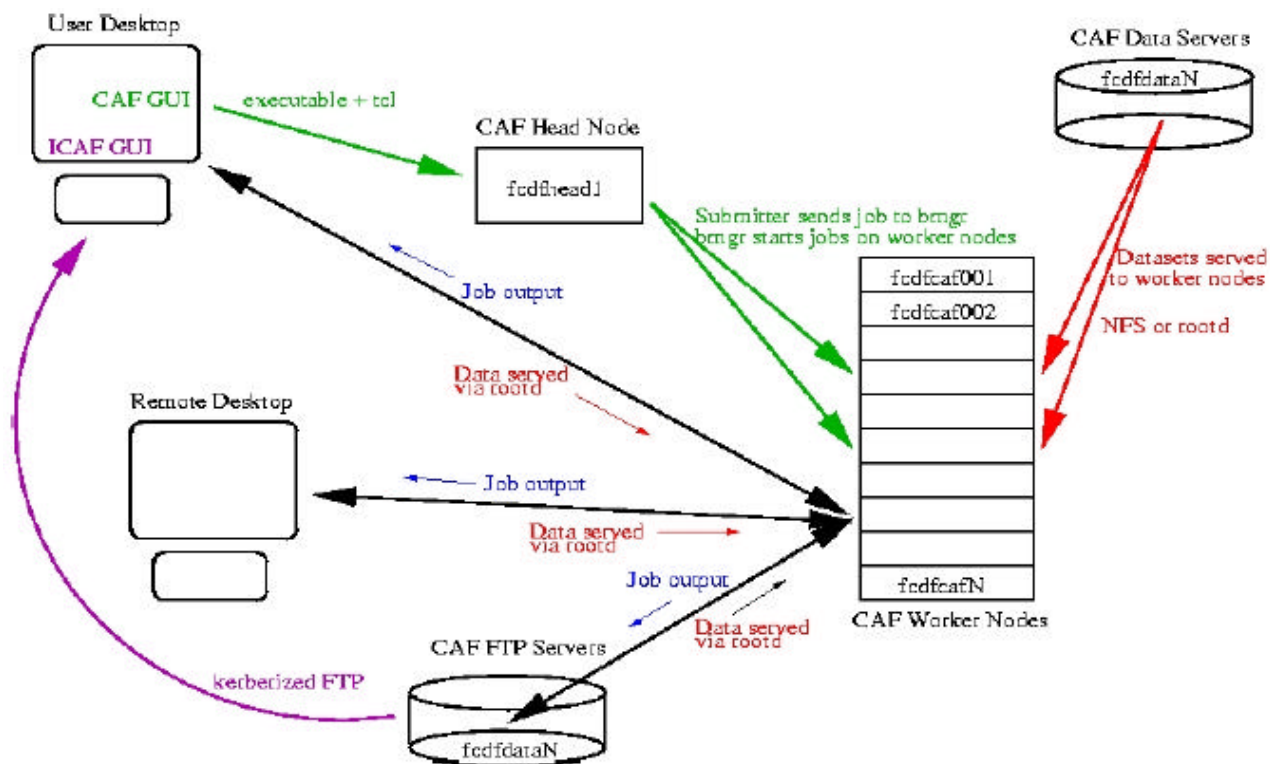
3. Data Handling System

- Glasgow, Italy and Yale use Data Handling System.
- SAM station needs to be installed on 1 PC work node.

4. OS for Fermilab Red Hat Linux 7.2 with Kernel 2.4.18

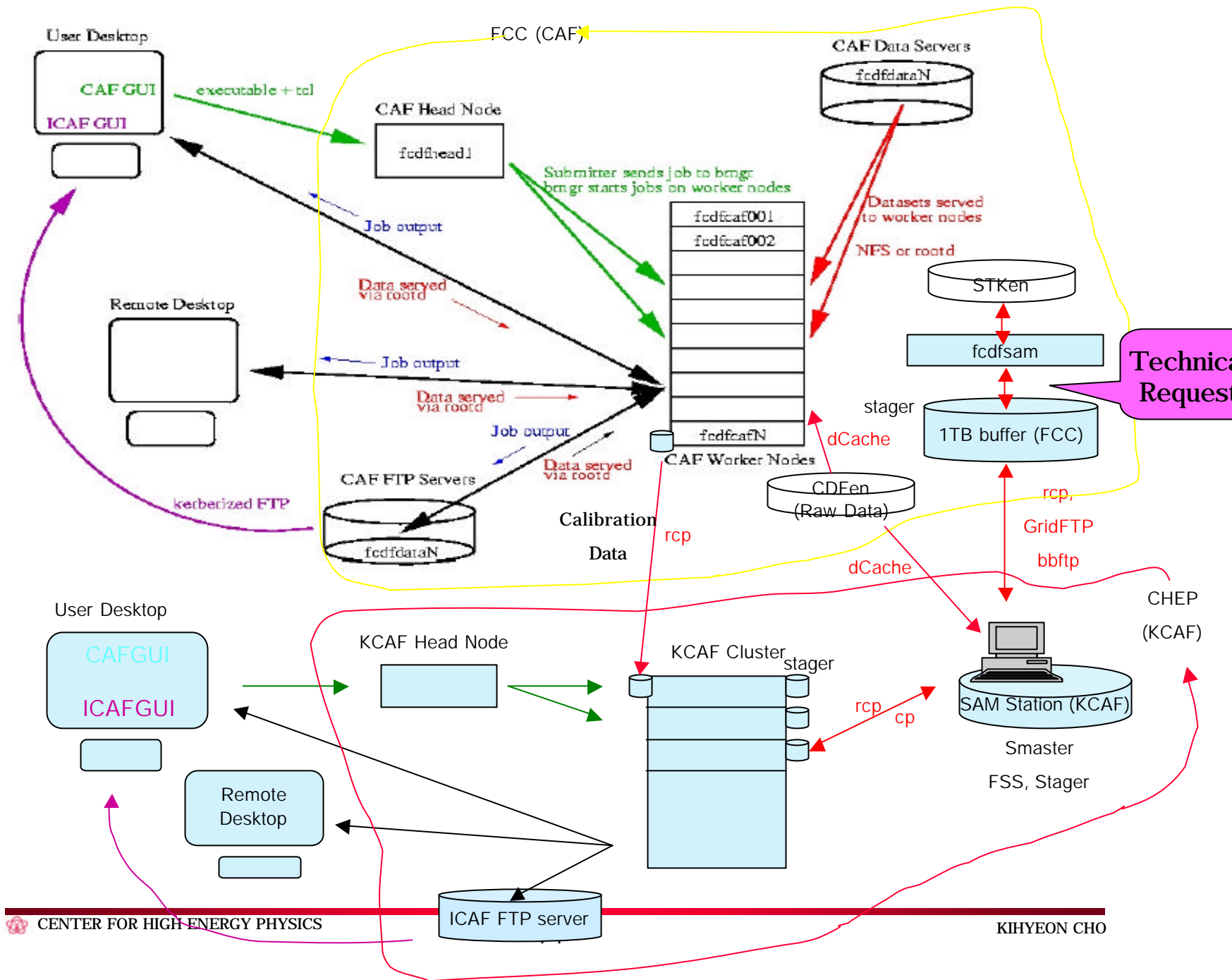
5. Fundamental license problem for DB

Current CAF at FCC



A Design of KCAF

- Crone of CAF
- Users
 - Korean Group
 - Other Asian Group
 - Other around the world
- Technical request
 - To connect between the 1Tbyte buffer and fcdfsam at FCC.



Conclusions

- **Grid is one of world trend at High Energy Physics. Someday we should use it even CDF.**
- **At the first step, DCAF is recommendable.**
- **Is it the first time to make DCAF outside US? Anyway, why not try?**
- **Any comments?**